ROCKETS AND MISSILES

Space Experts' Predictions

Predictions that read like science fiction have been made by a group of experts concerning man's future as a space traveler and advances in communications and medicine.

➤ A REPORT just issued by the House Select Committee on Aeronautics and Space Exploration contains these predictions:

1. Man will orbit the earth before the end of the year.
2. He will land on the moon by 1965, and on Mars and Venus by 1968.
3. He may travel almost 670,000,000 miles an hour within 40 years, approaching the speed of light.
4. Within a decade, letters may be sent by rocket from New York to Paris and be answered in a matter of hours.
5. There may be world-wide TV also within a decade.
6. The day may come when worn-out human parts will be replaceable with miniature parts produced by the missile industry.

The report, entitled "The Next Ten Years in Space, 1959-1969," contains frank commentary from more than 50 space experts from several nations on what can be expected in future space developments.

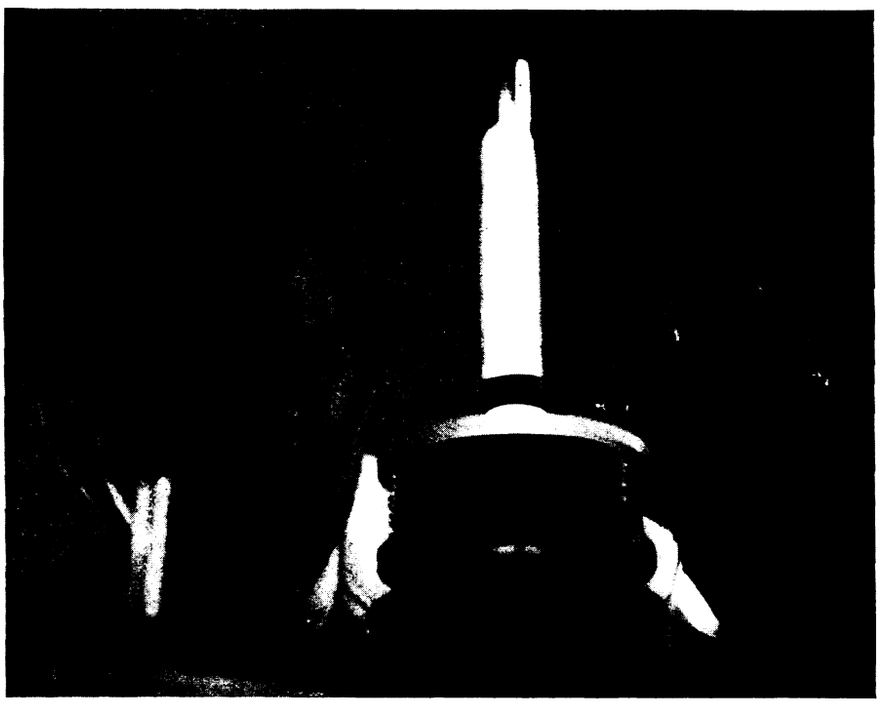
The experts include scientists, engineers, industrialists, military officials, and Government administrators concerned with the U. S. national space program.

The report was prepared by a Committee staff and submitted by George J. Feldman, the Committee's director and chief counsel. It is intended as a guide to the American public about what lies ahead in the new space age.

Frederick C. Durant III, former president of the American Rocket Society and the International Astronautical Federation, believes, for example, that Russia will shock this country during the coming year by sending a man into orbital flight around the earth and recovering him several times.

None of the other experts concurred in this prediction but most agreed that man would be in orbit within a few years.

That man would set foot on the moon in 1965 if sufficient priority is assigned to this goal is the belief of Dr. Herbert F. York, recently appointed director of research and engineering for the Defense Department. With the necessary priority, man will land on Venus or Mars within three years after the moon landing.



IONIC BEAM—Ionic beams, which may power rocket ships of the future, are the subject of research in the Indiana University chemistry department. The ionic beam in this glowing tube, observed by Finn Gronlund, research associate, has an effective gas temperature of millions of degrees. It is being used in research on how gases at very high temperatures react with metals—a vital question in development of jet aircraft and rocket ships.

Dr. Eugen Sanger, director of the Institute of Jet Propulsion Physics at the Technical University of Stuttgart, West Germany, foresees the possibility of space travel at speeds approaching the velocity of light by the turn of the century. This would mean traveling almost 670,000,000 miles an hour.

Dr. Glauco Partel, founder of the Italian Rocket Association, and a propulsion expert, believes international postal rockets will be a certainty long before the year 2000. It will then be possible for a New Yorker to mail a letter to Paris and expect an answer within a matter of a few hours.

Rocket Travel

In fact, passenger rocket travel within the next decade will be developed so that it will take barely a half hour to get from New York to London and about 45 minutes to get from New York to Moscow, Andrew G. Haley, president of the International Astronautical Federation and general counsel of the American Rocket Society, predicts.

Satellites can provide a communication system that will permit continuous world-wide color television, reports Rear Adm. John T. Hayward, assistant chief of Naval Operations. This can be done within the decade, he believes, if the proper emphasis and funding is provided.

The missile industry is producing such reliable, accurate miniature parts, Lt. Gen. James M. Gavin, former Army Deputy Chief of Staff for Research and Development, now a vice president of Arthur D. Little, Inc., says, that some of them may some day be used "to replace worn-out human parts." Rocket valves may even be used in the human heart, he says, "and we'll be thanking missiles that our hearts beat."

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ASTRONAUTICS

Experiment Tests Men's Weightlessness Reactions

See Front Cover

➤ LITERALLY FLOATING in space during a weightlessness experiment in an Air Force transport aircraft are U.S. Air Force Surgeon General Maj. General Oliver K. Niess (Left) and Col. John Paul Stapp, commander of the Aero-Medical Laboratory at Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, shown in the photograph on the cover of this week's SCIENCE NEWS LETTER.

Drs. Niess and Stapp have recently made several zero-gravity or weightless flights in the specially modified transport plane. Maximum duration of the total absence from the normal pull of the earth's gravitational force during these flights was fifteen seconds.

During orbit around the earth or in free space flight, space crews are expected to be weightless for periods ranging from hours to months, or even years.

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